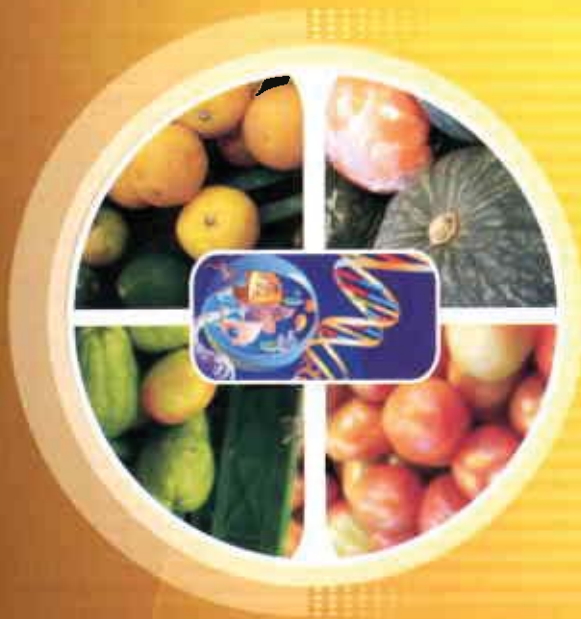




UNIVERSITAS
ATMA JAYA YOGYAKARTA
Fakultas Teknobiologi



PROCEEDING



1st International Seminar on
**“Natural Resources Biotechnology:
From Local to Global”**

September 8th – 9th 2015
Faculty of Biotechnology
Universitas Atma Jaya Yogyakarta

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The Antioxidant Activities of The Extracts of Red Fruit (*Pandanus conoideus* Lam.) Pre-dried by *Détente Instantanée Contrôlée* (DIC)

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Abstract

Red fruit is an indigenous fruit from Irian Jaya, is known contains large amounts of polyphenolic compounds, β -carotene and α -tocopherol wich has antioxidant capacities, and these may prevent oxidative damage of DNA. *Détente Instantanée Contrôlée* (DIC) which is a high-steam pressure treatment, is also categorized as a High Temperature Short Time (HTST) process. It increases the material porosity as well as the specific surface area and reduces the diffusion resistance of moisture during the final dehydration step. This research was directed to appraise the antioxidant activity of the ethanol and the hexane extract treated with DIC as a pre-drying/texturing method and compare it with the untreated one, evaluate antioxidant activities using *in vitro* methods of 2,2-diphenyl-1-picrylhydrazyl (DPPH) and FRAP's radical scavenging. The results were analyzed by one-way ANOVA. From this study, it is indicated that the DIC-assisted extraction had better impact in terms of antioxidant activity compared to extract without DIC pre-drying.

Keywords: *Détente Instantanée Contrôlée*, Red Fruit (*Pandanus conoideus* Lam.), Antioxidant, Pre-drying, DPPH, FRAP's.

1. INTRODUCTION

Red fruit (*Pandanus conoideus* Lam.), is one of the fruit commonly consumed by many local communities in Papua, Indonesia. They believe that Red fruit (*Pandanus conoideus* Lam.) can treat many illnesses such as cancer, arteriosclerosis, rheumatoid arthritis, and stroke [6]. Red fruit contains large amounts of polyphenolic compounds, with antioxidant capacities, and these may prevent oxidative damage of DNA [17]. Red fruit is also rich in flavonoids and other polyphenols, β -carotene and α -tocopherol [17], that have been shown to possess a wide range of biological and pharmaceutical benefits, including anticarcinogenic, antioxidative, and hypolipidemic activities [7, 19].

Red fruit has a high moisture content that can induce enzymatic reaction, hydrolysis and microbiological contamination which can decrease its quality. So, the moisture content must be reduced by drying method before extraction stage of the fruits. Drying method of each *simplicia* must be considered because a different drying method can affect the quality of the *simplicia* itself [18].